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BLACK HILLS DEBEQUE EXPLORATORY PROPOSAL

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INTRODUCTION

The Black Hills Debeque Exploratory Proposal (BHDEP) is an oil and gas exploration program to be completed over a 3-year period proposed by Black Hills Plateau Production, LLC, (“Black Hills”). This BHDEP includes four separate areas located near the town of Debeque, Colorado. The majority of the collective area is within the boundaries of Mesa County with a few sections of the Homer Deep area extending into Garfield County. The four areas are described below:

The BHDEP area encompasses roughly 33,000 acres of federal, private, and split estate lands within four areas described as follows:

- Homer Deep Unit and Non-Unitized Area - northwest of Debeque via Roan Creek Road to X.5 (South Dry Fork). Includes all or portions of Sections 7-10 and 13-24, T8S R98W; Sections 11-15, and 24, T8S R99W, and Section 6, T8S R98W, Sixth Principal Meridian.
- Horseshoe Canyon Unit – south of Debeque accessed by 45.5 Road. Includes all or portions of Sections 27-34, 19-22, and 15-17, T9S R97W; Sections 5-6, T10S R97W, Sixth Principal Meridian.
- Winter Flats Unit - southwest of Debeque with two possible access routes from Debeque, north along Roan Creek Road to X.5, then traveling west and south until V.6 and V.2. Includes all or portions of Sections 7-11 and 14-18, T9S R99W and Sections 1-3 and 10-14, T9S R100W, Sixth Principal Meridian.
- Wagon Track Non-Unitized Area – southwest of Debeque and accessed by V.2. Includes Sections 11-13 and 24, T9S R98W; Sections 7, 18, and 19, T9S R97W and Section 6, T10S R97W, Sixth Principal Meridian.

This proposal consists of constructing 12 new well pads as well as drilling, completing, and operating up to 24 wells on both federal and private oil and gas leases. The Grand Junction Field Office (GJFO) of the Bureau of Land Management (BLM) administers the federal mineral estate in the BHDEP area.

Map 1 provides potential locations of the proposed new well pads’ potential locations. Locations will not be finalized until site-specific resource surveys have been conducted in order to minimize impacts as much as reasonably possible. This proposal does not include any surface disturbance or other activities within the Little Book Cliffs Wild Horse Range or within the Little Book Cliffs Wilderness Study Area.

DESCRIPTION OF PROPOSAL

Black Hills operates approximately 75 wells in the BHDEP area. Some of these wells were drilled as early as 1978. Black Hills perceives this area as an exploratory prospect

due to recent advances in drilling technology and new geologic information that has provided Black Hills with new formations.

Schedule

Exploratory drilling is expected to include the construction of 12 well pads total and drill up to 8 wells per year for three years. The rate of the exploratory drilling will depend largely on factors such as advances in technology and economic-based factors such as the productivity of the wells, price of natural gas, and the cost of services.

Black Hills anticipates starting construction October 1, 2012, once all approvals are obtained. Listed in the table below is the anticipated construction schedule of well pads.

Construction Schedule	Well Pad Name	T (S)	R (W)	Sect.	Surface Qtrr/Qtrr
2012	Homer Deep Unit 9-41	8	98	9	NENE
2012	Homer Deep Unit 12-14	8	98	12	SWSW
2012	Homer Deep Unit 9-11	8	98	9	NENE
2013	Horseshoe Canyon 1-22	9	97	22	SWNW
2013	Horseshoe Canyon 5-16	9	97	16	SWSW
2013	Homer Deep Unit 24-11	8	98	24	NWNW
2013	Horseshoe Canyon 1-21	9	97	21	SWSW
2013	Horseshoe Canyon 1-20	9	97	20	NWSW
2013	Wagon Track 12-16	9	98	12	SESE
2013	Homer Deep Unit 7-33	8	98	7	NWSE
2013	Debeque Canyon 1-13	9	98	13	SESE
2013	Winter Flats 10-31-99	9	99	10	NWNE

Project Components

The following projects components will be designed, constructed and operated using the site specific design and inventory procedures described in this project proposal.

Additional BLM, USFWS, or State agency mitigation specific to individual well/pads will also be adhered to by Black Hills.

Well Pads and Wells

Construction of a single new well pad will disturb approximately 10 acres. This will allow for up to 2 wells per pad to be drilled for a total of 24 wells. It is estimated that approximately 120 acres would be required for well pad disturbance.

Black Hills has determined that a 10 acre pad is necessary to ensure safety while drilling and completing horizontal wells and to accommodate up to four wells per pad. The amount and size of equipment required to drill and complete a horizontal well exceeds that of a typical vertical well. Black Hills anticipates a larger-sized drilling rig to reach the projected depths. The pad must accommodate the closed loop drilling system (extra tanks and centrifuges), fracture stimulation equipment (pump trucks, sand master, frac tanks), fluids pit, and personnel associated with drilling and completion.

With the 10-acre pad proposal, Black Hills is anticipating that each pad would be able to accommodate all future wells to be drilled on the pad (up to four wells) although the current proposal includes up to two wells per pad. Due to the topography and presence of special status plants in the area, it is imperative to request locations large enough to facilitate all activity for the life of the project. Well pad design must take into account all resource factors so as to eliminate duplicative requests by Black Hills for additional disturbance at a later date if additional wells are proposed on the pads. If total disturbance is not considered, redesign and construction would ultimately result in well pads requiring additional cut and fill which would result in a hazardous situation because of existing wellheads and production facilities. Wellheads and surface pipe would then require temporary plugging and suspension of operations, to accommodate further construction, not only ceasing production of producing wells, but creating a hazardous situation by manipulating heavy equipment (bulldozers) around live, high pressure wellheads, creating further safety concerns.

The use of larger pads allows for a reduction in the number of well pads in the project area overall. If smaller well pads are approved, it is likely that more than one well pad per section would be necessary; however, with the larger 10-acre pads, it is likely that only one well pad per section would be required to fully develop the oil and gas resources. Several wells on each pad allows for the use of centralized facilities for water supply and delivery, water disposal, and compression. In summary, the use of larger pads will allow for an overall reduction in surface disturbance, reductions in fragmentation of wildlife habitat, and reductions in truck traffic.

As described in this proposal, well pads will be stabilized with BMPs until it is determined that no more wells will be drilled on the pad. When all drilling is complete, the well pad will be reclaimed back to approximately 3 acres for a total of 36 acres of long-term disturbance. Adequate space must be provided so as to not inhibit movement, egress or exit in the event of an emergency. Any restriction of the aforementioned components is placing individuals in a hazardous environment

Access Roads and Gathering Lines

It is estimated that approximately 3 miles of new roads will be required to access the new well pads. Existing roads and jeep trails will be upgraded as necessary. On average, for the 12 proposed new well pads, each pad would require approximately 0.2 miles of new

access road. Construction of new roads will require 40 feet in width. Disturbance would be reclaimed back to a width of 20 feet with 16 to 18 foot running surface for the road.

Black Hills proposes to install an estimated 14.5 miles of produced water lines, freshwater supply lines, and gas gathering lines co-located in the same trench. Fifty feet in width would be required to install the gathering lines. Lines will be co-located with roads to the maximum extent possible. Total short-term disturbance for the pipelines is calculated to be approximately 88 acres. Black Hills is also anticipating installing 19 miles of freshwater supply pipeline only. This would also require a 50 foot width for construction and installation. Total short-term disturbance would be 67 acres. All pipeline disturbances will be fully reclaimed after construction is completed.

Where pipelines and roads are being constructed concurrently, a total width disturbance of 70 feet will be requested.

Water

Water Source. Black Hills will purchase 350 acre/feet of water rights from Colorado River Water District annually for the life of the project.

Water Extraction. This BHDEP includes multiple water extraction points. Extraction points specific to each well will be listed in the surface use plan of the individual APD. Water will be primarily pumped from extraction point to freshwater storage facilities via pipelines. All pipelines placed in potential fish habitat will be screened and monitored. Schedule for pumping will be determined by drilling and completion activity.

Current locations are:

- Latham Ponds
- Colorado River
- Dry Fork
- Roan Creek

Anticipated future water extraction locations include:

- Plateau Creek
- Larkin Ditch
- Private Sources
- Recycled Produced Water

Other water sources may arise in the future. All water will be obtained through legal rights under Colorado law, third party contracts, private sources and appropriately permitted sources.

Water Use. Water usage will be determined by the length of the horizontal section and frac stages required for economic recovery of resources. Estimates range between 200,000 and 500,000 bbls per well for both drilling and completion operations.

Freshwater Storage. Freshwater storage ponds, existing and proposed, will be maintained within the Homer Deep Unit area and the Horseshoe Canyon Unit area to supply freshwater for drilling and completion processes. Freshwater will be transported via primarily pipeline supplemented by trucking. Water storage would be located at the Centralized Facilities as follows:

- HDU Centralized Facility #1 – volume not yet determined
- HDU Centralized Facility #2 – 200,000 bbl storage capacity
- HSC Centralized Facility #1 – volume not determined
- HSC Centralized Facility #2 – volume not determined
- HSC Centralized Facility #3 – volume not determined

Produced Water Storage and Treatment. Produced water will be stored and treated in order to supplement freshwater volumes for drilling and completion. Black Hills proposes to treat and recycle produced water based on volumes recovered from drilling and completion operations. The extent of treatment methods necessary will be determined based on volumes and quality of water received from producing wells and compatibility with frac stimulation designs of future wells. Actual treatment methods and the required holding capacity have not yet been determined. Produced water storage and treatment will be located as follows:

- HSC Centralized Facility #1
- HDU Centralized Facility #3

Produced water will be transported via pipeline to existing and proposed water gathering stations situated to facilitate: a reduction in truck traffic, dust mitigation, easement of pipeline hydrostatic pressure, topographical concerns, and protection of resource concerns. Consequently locations for water gathering stations have not been determined. Prior to construction, Black Hills will: conduct the necessary site-specific surveys; submit site designs to BLM; obtain all applicable federal, state, county, municipal, and local permits; and provide Request for Approval Documentation to the BLM.

Produced Water Disposal. Produced water not deemed acceptable for recycling will be disposed of in one of two manners-injection or trucked to a permitted disposal facility. Black Hills currently operates one injection well and is proposing to drill two additional injection wells at the following locations:

HSC Centralized Facility #1
HDU Centralized Facility #3

Centralized Facilities

Black Hills will locate centralized facilities to accommodate compression, freshwater storage, produced water storage and treatment, and produced water disposal. Centralized facilities are estimated to require up to 10 acres of disturbance per location for a total of 60 acres of potential disturbance. Prior to construction of centralized facilities, Black

Hills will: conduct the necessary site-specific surveys; submit site designs to BLM; obtain all applicable federal, state, county, municipal, and local permits; and provide Request for Approval Documentation to the BLM. Electricity will be required at all centralized facilities to operate equipment. Power lines will be permitted and obtained through the local utility supplier. All proposed locations for centralized facilities are outside of the unit boundaries (see Map 1). Centralized Facility locations are proposed as follows:

- HDU Centralized Facility #1
 - (Section 11, T8S R98W) private surface, existing
- HDU Centralized Facility #2
 - (Section 7, T8S, R98W), private surface, proposed
- HDU Centralized Facility #3
 - (Section 12, T8S R98W), federal surface, proposed (co-located with proposed well pad 12-14)
- HSC Centralized Facility #1
 - (Section 15, T9S R97W); private surface, proposed
- HSC Centralized Facility #2
 - (Section 35, T9S R97W), private surface, proposed
- HSC Centralized Facility #3
 - (Section 9, T9S R97W), private surface, proposed

Compression. Under the presumption of successful wells, Black Hills would require two potential compression sites: one in the Homer Deep Unit and one in the Horseshoe Canyon Unit where pipelines would tie in to the existing gathering systems. Initially compression will not be necessary, as the newly drilled wells will have enough pressure to overcome the internal pressure in the gathering system. As the wells deplete, it might become necessary to install compression to allow full reservoir production. At that time, Black Hills proposes to install compression. The rate of compression and well performance will be evaluated and the third party gas gathering company will dictate the amount of compression and horsepower (hp) required to allow the wells to flow into the gas sales line. Current estimates are that a total of 6,000 hp will be required for this proposal. In addition to compressors, based on quality of gas, treatment facilities may become necessary to meet third party gas pipeline specifications. Treatment equipment may include dehydration, dew point control, and CO₂ removal as needed. Compression sites will be located as follows:

- HSC Centralized Facility #1
- HDU Centralized Facility #3

Traffic and Workforce

There are two phases to drilling traffic. Mobilization and demobilization each occur over a 3-day duration. During mobilization and demobilization of drilling rigs, it is estimated that approximately 12 light-vehicle round trips per day and 33 heavy-vehicle round trips per day would occur, totaling 272 round trips in the 6 days of rig movement. Typical

drilling operations would involve 12 light vehicle round trips per day and 3 heavy vehicle round trips per day over a 45 day period, totaling 665 round trips.

Drilling workforce estimates include 36 workers when one drilling rig is operating and 65 workers when two drilling rigs are operating.

During completion operations, it is estimated 20 light-vehicle round trips per day and 11 heavy-vehicle round trips per day would be required for a total of 31 round trips per day. Completion operations take place during a two to three week time period. Measures to reduce traffic are discussed below under Transportation.

Completion operations employ approximately 50 workers during the fracturing operations and six workers during flowback operations.

During the production-only phase of operations, it is estimated that 1 light duty truck would be required per day.

Site-Specific Surveys and Special Design Features to Protect Resources

Black Hills will follow all BLM GJFO Standard Surface Use Conditions of Approval for Oil and Gas (BLM GJFO Standard Conditions) which are included as Attachment A to this BHDEP.

Notifications and Agreements. In accordance with BLM GJFO Standard Conditions Black Hills will notify the BLM representative at least 48 hours prior to initiation of construction activities. Black Hills will comply with BLM Standard Conditions regarding agreements with existing right-of-way holders.

Permits, Authorizations, and Plans. Black Hills will comply with BLM GJFO Standard Conditions and will obtain all appropriate federal, state, county, municipal, and local permits, including all necessary environmental clearances and permits (Colorado Oil and Gas Conservation Commission, U.S. Army Corps of Engineers, Colorado Division of Wildlife, U.S. Fish & Wildlife, U.S. Forest Service, Colorado Department of Transportation, Colorado Department of Public Health and Environment (CDPHE), County Health and Road Departments, and municipalities, etc.) before commencing any work.

All construction will be covered by a General Construction Permit for stormwater discharges from CDPHE. The Homer Deep Unit is covered under permit number COR-03D439; Horseshoe Canyon Unit is covered under permit number COR03D195; and the Winter Flats Unit and the Wagon Track Non-Unitized Area are covered under permit numbers COR-03D377 and COR-03C916, respectively. A Stormwater Management Plan is currently in place for each of the four areas. The plans will be updated as necessary to include all new construction. Best Management Practices, as required by the permits and plans, will be in place before, during, and after construction until the location has reached

final stabilization. All other requirements of the permits will be followed, such as the bi-weekly inspections and post-precipitation event inspections.

Black Hills has a Spill Prevention, Control, and Countermeasure Plan (SPCC Plan) currently in place for the existing well locations in the area. The SPCC Plan will be updated to include this exploratory proposal.

Air Quality. All drilling rig engines will be Tier 2 compliant to minimize nitrogen oxide (NO_x) emissions from drilling rigs. Tier 2 engines have a 68 percent reduction in NO_x over Tier 0 engines.

Cultural Resources. Some Class III surveys have been conducted and additional surveys will be conducted in spring/summer of 2012. Cultural resource inventories will be conducted on all proposed new well pads, access roads, pipelines routes, centralized facilities, and other areas proposed for surface disturbance. Class III surveys will occur on 40-acre blocks centered on the staked well location and on 100 feet on either side of proposed road/pipeline disturbance. Black Hills will comply with BLM GJFO Standard Conditions for Cultural Education/Discovery.

Paleontological Resources. Black Hills will conduct on-site (pedestrian) inspections for fossils prior to initiating activities associated with each year of development. On-site inspections will occur where surface-disturbing activities are proposed on or within 200 feet of the Wasatch Formation. Black Hills will comply with BLM GJFO Standard Conditions regarding Paleontological Resources.

Transportation. The following design features are incorporated into this proposal to reduce traffic and impacts to other resources from traffic:

- Black Hills would implement dust control measures in accordance with BLM GJFO Standard Conditions.
- Workers would carpool to drilling locations when feasible.
- A produced water gathering system would be installed to reduce heavy truck traffic to each individual well location.
- Existing roads would be used to the maximum extent possible and gathering pipelines would be placed adjacent to both existing and new roads to minimize disturbance.
- Remote telemetry would be used for well locations during operations wherever topographically feasible.
- Disposal wells within the project area would be used for injection of produced water, drastically reducing the need for heavy truck traffic hauling produced water outside of the project area. Occasional truck loads may be hauled out of the project area to an approved disposal facility.

- A water supply delivery system will be developed as part of the Proposed Action which could reduce the number of heavy truck trips delivering water from outside the project area.

Black Hills will follow BLM GJFO Standard Conditions regarding dust abatement and speed control measures.

Wildlife. Black Hills and CDOW (now Colorado Parks and Wildlife - CPAW) have prepared and signed a Wildlife Mitigation Plan, which identifies best management practices and compensatory mitigation to reduce impacts to wintering big game and other wildlife. The Wildlife Mitigation Plan will be revisited with CPAW (early 2012) so that it is specific to this proposal.

Black Hills will comply with BLM GJFO Standard Conditions for Raptor Nesting, Migratory Birds, and (Birds of Conservation Concern).

Black Hills will conduct raptor surveys within 0.25 mile or 0.5 mile of proposed disturbance that would occur between February 1 and August 15, in appropriate nesting habitat. Surveys will be conducted prior to initiating activities associated with each year of development (prior to mid-May).

Black Hills will comply with BLM GJFO Standard Conditions relating to construction and reclamation which would reduce impacts to wildlife. These include Pre-Construction and Limit of Disturbance, Vegetation Removal, Topsoil Stripping, Storage, and Replacement, Interim Reclamation, Weed Control, and Final Reclamation.

Sensitive Plants. Black Hills will conduct special status plant surveys within a 40 acre block around the staked well pad locations. Surveys for special status plants will be conducted within 100 meters either side of proposed access road and pipeline disturbances (within 200 meters of potential Debeque phacelia habitat).

In certain areas, Black Hills will install gathering lines within existing roads to reduce impacts to Colorado hookless cactus.

Wetlands and Waters of the U.S. – Black Hills will conduct wetland evaluations for well pads and associated components (i.e., gathering pipeline roads), and other proposed surface disturbance not previously evaluated. If the wetland evaluation shows that there are potential wetlands and WoUS on or near areas proposed for disturbance, Black Hills will attempt to avoid the wetland or WoUS by moving the proposed disturbance. If the area proposed for disturbance cannot be adjusted, Black Hills would conduct a wetland delineation. If impacts to wetlands and WoUS cannot be avoided, Black Hills would obtain all necessary permits from the U.S. Army Corps of Engineers.

Black Hills would comply with BLM GJFO Standard Conditions regarding Jurisdictional Waters of the US, Wetlands, and Riparian Zones.

Fire. Black Hills will comply with BLM GJFO Standard Conditions for Fire, regarding fire suppression and notification.

Range Management. Black Hills will comply with BLM GJFO Standard Condition for Range Management.

Weed Management. Black Hills will conduct inventories for noxious weeds in area that have not been previously inventoried.

Black Hills will comply with BLM GJFO Standard Conditions for Weed Control.

Construction

General Construction. Black Hills will follow BLM GJFO Standard Surface Use Conditions of Approval as they relate to construction.

Proposed Well Pads. Black Hills will comply with BLM GJFO Standard Conditions for Vegetation Removal, Topsoil Stripping, Storage, and Replacement, and Interim Reclamation. The proposed well pads will be constructed from the native soil and rock materials present using a bulldozer, grader, front-end loader, or backhoe. The pad would be constructed by clearing vegetation, stripping and stockpiling topsoil, and leveling the pad area using cut-and-fill techniques. The tops of the cut banks and pad corners may be rounded to improve their appearance.

The working surface of the newly constructed pads would average 450 feet by 750 feet, and with cut and fill slopes, disturbance per pad would be approximately 10 acres. The target zone for the wells is a depth from approximately true vertical depths of 1,500 to 9,000 feet in the Mesaverde, Rollins, Cozzette, Corcoran, Frontier, Segoe, Mancos, Dakota and Cedar Mountain sandstones. A well pad of this size is required based on the size of the drilling rig necessary to reach the proposed depths, the size of the drilling and completion equipment required to properly access the desired reservoir, and to allow enough space for all workers to perform the operations safely.

Proposed Access Roads and Gathering Lines. Black Hills will comply with BLM GJFO Standard Conditions for Road Construction and Maintenance, Pipelines, and Drainage Crossings and Culverts. The proposed access roads will be constructed to meet standards for the anticipated traffic flows and all-weather requirements. Roads will be constructed to BLM Gold Book standards. Culvert outlets will incorporate controls such as rip-rap, sediment catchments, and anchored check structures to slow water velocity and prevent erosion and sediment transports. If applicable, initial gravel application will be to a minimum depth of 4 inches.

Black Hills will provide timely maintenance and cleanup of roads. A regular schedule for maintenance will include, but not be limited to: dust abatement; reconstruction of the crown, slope, or water bars; blading or resurfacing; clean out of ditches, culverts, catchments; and other BMPs. When rutting of the travelway becomes greater than 6

inches, maintenance such as blading, and/or gravelling will be conducted as approved by BLM. Several of the roads within the project area are currently maintained by either Garfield County or by Mesa County.

Roads would be constructed within a 40 foot disturbance corridor, which would be reduced to road width of 20 feet with a 16 to 18 feet running surface. Bulldozers, trackhoes, and/or road graders would first clear vegetation and topsoil. The road would then be constructed using standard equipment and techniques approved by the BLM, which could include ditching, draining, crowning, surfacing, sloping, and dipping the roadbed as necessary.

All proposed gathering lines would be constructed immediately adjacent to existing, upgraded, or proposed roads, generally along the uphill side of the road. Excavated topsoil would be windrowed separately from the underlying subsoil and stored along the road until the trench is backfilled. Pipeline construction would require up to 50 additional feet of width, to be reclaimed fully once the pipeline is installed.

All new pipelines will be hydrostatically tested with freshwater for leaks. It is estimated that approximately 0.031 barrels of water per foot of 8" pipe will be required for hydrostatically testing the pipelines. After hydrostatic testing, the freshwater will be allowed to drain onto the surrounding surface.

All pipelines would be buried to a minimum depth of 4 feet from surface to top of pipe. The pipeline trench would be excavated mechanically; pipe segments would then be welded together and tested, lowered into the trench, and covered with excavated material.

Dust suppression would be implemented in accordance with BLM GJFO Standard Conditions for Dust Control. It is estimated that approximately 1,600 bbls of water per well would be required for dust control during drilling and completions operations. Water for dust control would be obtained from the same sources as for drilling and completion. Magnesium chloride would not be used for dust control in sensitive areas.

Centralized Facilities. Similar to well pad construction, the centralized facilities would be constructed from the native soil and rock materials present using a bulldozer, grader, front-end loader, or backhoe. The site would be constructed by clearing vegetation, stripping and stockpiling topsoil, and leveling the area using cut-and-fill techniques. Compressors, pump stations, and water storage facilities will be fenced.

Drilling and Completion

Black Hills would comply with BLM GJFO Standard Conditions for Drilling, Testing, and Completion. Production results from the initial wells would be used to plan future drilling programs. Fewer wells may be drilled than are proposed because of geologic and market uncertainties.

Black Hills drilling operations would be conducted in compliance with all Federal Oil and Gas Onshore Orders, as well as all other applicable rules and regulations. Drilling would target gas production zones at true vertical depths of approximately 1,500-9,000 feet.

Black Hills proposes to use a closed loop drilling system. A fluids pit (100 feet x 250 feet) with an approximate capacity of 32,500 barrels will accommodate drilling and completion of the wells. The fluids pit will initially contain fresh water used for drilling and completion and will be continually filled with fresh water as needed. During completion, flowback water from the well will be contained in the fluids pit. The flowback water will go through separation at the surface to remove hydrocarbons so there will be no oil in the fluids pit. It is estimated that initially the flowback (before evaporation) would contain approximately 3,500 ppm of total dissolved solids (TDS). The concentration of solids will increase as the water in the fluids pit evaporates. The fluids pit will be double lined and both liners will be a minimum of 24 mil and will be installed in accordance with COGCC regulations.

Surface casing will be run to a minimum depth of 50 feet below any freshwater aquifers within one mile. The surface hole would be cased with steel casing and cemented in place entirely from ground level to the depth as determined in the individual APD. Prior to drilling below the surface casing, a Blowout Preventor (BOP) would be installed on the surface casing; both the BOP and the surface casing would be tested for pressure integrity. The BOP and related equipment would meet the minimum requirements of Onshore Oil and Gas Order No. 2, and the BLM would be notified in advance of all pressure tests.

After drilling the hole to its final depth, logging tools would be run into the well to evaluate the potential hydrocarbon resource. If the evaluation indicates adequate hydrocarbon resources are present and recoverable, steel production casing would be run and cemented into place in accordance with the well design as approved by the BLM. The proposed casing and cementing program would be designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. BLM approval is required prior to the use of any isolating medium other than cement.

After production casing has been cemented in place, the drilling rig would be removed and a completion rig would be moved in. Well completion consists of running a Cement Bond Log to evaluate cement integrity and to correlate the cased hole logs to the open hole logs. The casing is then perforated across the hydrocarbon producing zones, and the formation is stimulated to enhance the production of oil and gas. The typical method used for stimulation consists of a hydraulic fracture treatment.

Specific directional plans for each well will be included with its Application for a Permit to Drill. Downhole operations would be done with tools to facilitate proper direction and path of the well.

A well is anticipated to require approximately 45 days of drilling and 45 days to complete. Water for drilling and completion would be trucked or pumped to location via pipelines from a permitted and approved water source.

Production – Operation and Maintenance

Black Hills will comply with BLM GJFO Standard Conditions for Production.

Surface Facilities. Surface facilities at each well pad location would typically consist of wellheads, separator/dehydrator units, gas metering units, radio communications towers, and above-ground condensate and produced water tanks with approximately 100 to 400 barrel capacities. Multi-well locations would share production equipment, whenever feasible, to minimize surface occupancy/disturbance. All production equipment with a chimney, vent or stack shall be fitted with a device that will prevent birds from entering the chimney, such as an excluder cone or equivalent. Site specific equipment will be submitted with the individual APD.

Production facilities will be located and arranged to facilitate safety and maximize interim reclamation opportunities, e.g. located at the access road end of the pad, with tanks in cut. As practical, access to production facilities will be provided by a teardrop-shaped road through the production area, so that the driving area may be clearly defined and limited and so that teardrop center may be revegetated. All production equipment will be painted to match the surrounding terrain and located to reasonably minimize long term surface disturbance and visual impact. BLM will select the colors for all facilities, including any metal containment berms placed around the tanks, at sites associated with Federal surface. In cases of split estates associated with federal minerals the surface equipment will be painted in accordance with BLM requirements unless the private surface owner requests differently.

Telemetry equipment will be used to remotely monitor wells wherever topographically feasible. The use of telemetry would minimize traffic to and from the well locations in order to minimize impacts on wildlife and plants. A pumper truck will be required to periodically visit the pads. The frequency of these visits will be based upon information gathered from the telemetry equipment.

Tank batteries will be placed within secondary containment to prevent offsite migration of accidentally spilled condensate or produced water. Secondary containment would be sized to contain a minimum of 110 percent of the storage capacity of the largest tank within the berm. All loading lines would be placed inside the containment berm. A Spill Prevention, Control, and Countermeasure Plan is currently in place for the existing wells in the area and will be updated to include any new locations.

Access roads will be upgraded and maintained as necessary to prevent soil erosion and accommodate year-round traffic.

Produced Water Disposal. Produced water may be disposed of in one of the following manners: the existing Hancock Gulch #1 disposal well in the Homer Deep Unit; one of the future proposed Black Hills operated injection well; or recycled for future use in drilling and completion. Volumes to be determined based on production results.

Condensate Production. Condensate production is not anticipated; however, if condensate is produced, it will be transported to market by tanker trucks.

Workovers or Recompletion. Periodically, the workover or recompletion of a well may be required to ensure that efficient production is maintained. Workovers can include repairs to the well bore equipment (casing, tubing, rods, or pump), the wellhead, or the production facilities. These repairs would usually be completed during daylight hours. The frequency of this type of work cannot be accurately projected because workovers vary from well to well.

Abandonment and Reclamation

Well Plugging and Abandonment. Dry/non-producing wells would be plugged, abandoned, and reclaimed within 90 days of well completion, weather permitting. Upon abandonment, each borehole would be plugged, capped, and its related surface equipment removed. Subsurface pipelines would be plugged at specific intervals. A Sundry Notice would be submitted by the operator to the BLM that describes the engineering, technical, and/or environmental aspects of final plugging and abandonment. This notice would describe final reclamation procedures and any mitigation measures associated with the final reclamation performed by the operator. The BLM and the Colorado Oil and Gas Conservation Commission (COGCC) standards for plugging would be followed. A configuration diagram, a summary of plugging procedures, and a job summary with techniques used to plug the wellbore (e.g., cementation) would be included in the Sundry Notice.

Reclamation. All surface disturbances would be recontoured and revegetated in accordance with an approved Reclamation Plan that identifies the interim and final reclamation requirements to ensure that disturbed areas are adequately restored and reclamation is successful.

Within 30 days of completion of pad construction, topsoil storage piles, stormwater control features, temporarily disturbed areas along roads and pipelines, and cut and fill slopes will undergo temporary seeding to stabilize the materials, maintain biotic soil activities, and minimize weed infestations. All pipeline-related reclamation would occur within one growing season after construction. Black Hills will recontour and regrade disturbed areas to approximate pre-project contours to create physical diversity of landforms and minimize visual impacts. During reclamation of these sites, fill material will be pushed into cuts and over the backslope. Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil would be evenly spread over the reclaimed area(s). All disturbed surfaces would be reseeded with a wildlife friendly seed mixture (as determined by BLM and CDOW) unless otherwise directed by the private

surface owner. Fall seeding will be conducted after September 1 and prior to ground frost. Spring seeding would be conducted after the frost leaves to the ground but no later than May 15. If the seeding is unsuccessful, Black Hills may be required to make subsequent seedings.

Revegetation would be considered successful when the following objectives are met:

- Immediate short term: Establishment of desirable perennial vegetation by the end of the second growing season, capable of renewing itself.
- Acceptable establishment: Acceptable level of desirable vegetation by the end of the fifth growing season.
- Long-term establishment: Level of revegetation approximates the original predisturbed condition, in terms of species composition and reaching 75% vegetative cover canopy cover.

Interim Reclamation. The well pads, fluids pits, and other facilities would be left in place for up to 3 years to evaluate the results of the exploratory wells and to possibly drill additional wells from the existing pads with no new surface disturbance in the future. Black Hills would comply with BLM GJFO Standard Conditions for Interim Reclamation. Following completion activities, Black Hills will stabilize the well pad. Any areas unnecessary to drill additional wells shall be reshaped to blend with natural topography to the extent possible. Stabilization would be accomplished by grading, leveling, and seeding, as recommended by the BLM or private surface owner.

After all wells are drilled from a given pad, Interim Reclamation would reduce the disturbed area at each pad to approximately 3 acres per wellhead after well development. Interim reclamation will occur within 6 months after completion of the last well planned for the well pad or after a year has passed with no new wells drilled. If interim revegetation is unsuccessful, additional prep and reseeding shall be completed annually until standards are met. Requirements for reseeding of unsuccessful temporary seeding will be considered on a case-by-case basis.

Interim reclamation work would include:

- Removing all debris, materials, and trash unnecessary to production operations
- Reshaping of all areas unnecessary to operation to blend with natural topography to the extent possible
- Reseeding with seed mixes and techniques specified by the BLM

During the first two growing seasons or until seeded species are firmly established, whichever comes later, well pads will be fenced to BLM standards to exclude livestock grazing.

Final Reclamation. If the well is determined uneconomic, reclamation will be final. Final reclamation work would include:

- All equipment, facilities and trash shall be removed from the location.

- Each borehole shall be plugged, capped and its related surface equipment removed.
- After the well is plugged and abandoned, the site shall be reclaimed as soon as possible. Earthwork and seeding must be completed within one year from the date of plugging and abandonment.
- Dry hole marker shall be sub-surface, to prevent raptor predation upon small game, including sage grouse.

Monitoring. To determine progress and/or success, Black Hills would conduct annual monitoring surveys of all sites categorized as “operator reclamation in progress”. An annual report will be submitted each year by December 1 until reclamation is considered successful by the BLM Authorized Officer. The annual report would document whether attainment of reclamation objectives appears likely. If one or more objectives appear unlikely to be achieved, the report would identify appropriate corrective actions, such as reseeding an area. Upon review and approval of the report by the BLM, Black Hills would be responsible for implementing the corrective actions or other measures specified.

As set forth in *the Noxious and Invasive Weed Management Plan for Oil and Gas Operators*, Black Hills would regularly monitor and promptly control noxious weeds and other undesirable plant species. Prior to ground-disturbing activities, during construction, and post-construction, Black Hills would map weed infestations, promptly control noxious weeds or other undesirable plants using methods approved by the BLM, and regularly monitor known/treated infestation and retreat, if necessary. Black Hills would provide an annual report to BLM GJFO that identifies the extent of noxious weed infestations and treatment used to eradicate or minimize undesirable species. Reports will be provided by December of 1 each year until the BLM Authorized Officer has determined that the desired level of control is achieved. Prior to the use of herbicides, a Pesticide Use Proposal (PUP) would be approved by the BLM.

There are many BLM-sensitive and FWS-listed plant species documented in the project area, and additional plant sites are expected to be observed during future special status plant surveys. Black Hills would monitor the viability of special status plants documented within 20 meters of proposed surface-disturbing activities to determine if mitigation measures are sufficient to maintain the special status plants documented within the vicinity of the Proposed Action. Depending on results of monitoring, mitigation measures may be evaluated and revised in coordination with BLM GJFO and FWS (if applicable). Black Hills would submit monitoring reports to BLM GJFO and FWS by December 1 of each monitoring year.

Attachment A

BLM Grand Junction Field Office

Standard Surface Use Conditions of Approval

The following standard surface use COAs are in addition to all stipulations attached to the respective Federal leases and to any site-specific COAs for individual well pads.

1. Administrative Requirements. The operator shall notify the BLM representative at least 48 hours prior to initiation of construction or reclamation activities. If requested by the BLM representative, the operator shall schedule a pre-construction meeting, including key operator and contractor personnel, to review all lease stipulations and conditions of approval (COAs), prior to initiation of surface disturbance.

2. Soils. Cuts and fills shall be minimized when working on erosive soils and slopes in excess of 30 percent. Cut-and-fill slopes shall be stabilized through revegetation practices with an approved seed mix shortly following construction activities to minimize the potential for slope failures and excessive erosion. Fill slopes adjacent to drainages shall be protected with well-anchored silt fences, straw wattles, or other acceptable BMPs designed to minimize the potential for sediment transport. On slopes greater than 50 percent, BLM personnel may request a professional geotechnical analysis prior to construction.

3. Construction, Vegetation Removal, Topsoil Stripping and Storage. When saturated soil conditions exist on access roads or pads, construction shall be halted until soil material dries or thaws or until construction can proceed without soil damage. No topsoil shall be stripped when soils are saturated or frozen below the stripping depth. Prior to construction or pipeline installation, areas of such approved activities shall be cleared of brush and trees, which shall be chipped or shredded in place, then salvaged and stored with topsoil. No stump left in place shall exceed six inches in height.

All topsoil shall be stripped following removal of vegetation during construction of well pads, pipelines, roads, or other surface facilities. In areas of thin soil, a minimum of the upper 6 inches of surface material shall be stripped. The BLM may specify a stripping depth during the onsite visit or based on subsequent information regarding soil thickness and suitability. The stripped topsoil shall be stored separately from subsoil or other excavated material and replaced prior to final seedbed preparation. The BLM best management practice (BMP) for the **Windrowing of Topsoil** shall be implemented for well pad construction whenever topography allows (refer to the BLM 2009 PowerPoint available upon request). Topsoil berms shall be seeded within 30 days to maintain soil microbe health, reduce erosion, and prevent weed establishment.

4. Road Construction and Maintenance. Roads shall be crowned, ditched, surfaced, drained with culverts and/or water dips, and constructed to BLM Gold Book standards. Initial gravel application shall be a minimum of 6 inches. The operator shall provide timely year-round road maintenance and cleanup on the access roads. A regular schedule for maintenance shall include, but not be limited to, blading, ditch and culvert cleaning, road surface replacement, and dust abatement. When rutting within the traveled way becomes greater than 6 inches, blading and/or gravelling shall be conducted as approved by the BLM. Ditches shall be allowed to vegetate and/or shall include large rocks or stones to slow the velocity of drainage and allow sediment to settle out. Ditches may be seeded where soils are erodible.
5. Dust Abatement. The operator shall prevent and abate fugitive dust as needed. The BLM may direct the operator to change the level and type of treatment if dust abatement is insufficient. BLM approval is required before application of surfactants, binding agents, or other dust-suppression chemicals on roadways within public lands. Speed control measures on all project-related unpaved roads shall also be required.
6. Jurisdictional Waters of the U.S. The operator shall obtain appropriate permits from the U.S. Army Corps of Engineers (USACE) prior to discharging fill material into waters of the U.S. in accordance with Section 404 of the Clean Water Act. Waters of the U.S. are defined in 33 CFR Section 328.3 and may include wetlands as well as perennial, intermittent, and ephemeral streams. Permanent impacts to waters of the U.S. may require mitigation. Contact the USACE Colorado West Regulatory Branch at 970-243-1199 ext. 17 (Travis Morse). Copies of any printed or emailed approved USACE permits or verification letters shall be forwarded to the BLM.
7. Drainage Crossings and Culverts. Construction activities at perennial, intermittent, and ephemeral drainage crossings (e.g. burying pipelines, installing culverts) shall be timed to avoid high flow conditions. Culverts at drainage crossings shall be designed and installed to pass a 25-year or greater storm event. On perennial and intermittent streams, culverts shall be designed to allow for passage of aquatic biota. The minimum culvert diameter in any installation for a drainage crossing or road drainage shall be 24 inches. Crossings of drainages deemed to be jurisdictional waters of the U.S. pursuant to Section 404 of the Clean Water Act may require additional culvert design capacity. Due to the flashy nature of area drainages and anticipated culvert maintenance, the U.S. Army Corps of Engineers (USACE) recommends designing drainage crossings for the 100-year event. Contact the USACE Colorado West Regulatory Branch at 970-243-1199 ext. 17 (Travis Morse).

Pipelines installed beneath stream crossings shall be buried at a minimum depth of 4 feet below the channel substrate to avoid exposure by channel scour and degradation. Following burial, the channel grade and substrate composition shall be returned to pre-construction conditions.

Low-water crossings shall conform to the natural channel shape and slope and be designed to minimize bank failures, channel incision and scour, and aggradation at

the crossing. Crossings shall be constructed at-grade and consist of an armored channel bottom and banks using local rock material, appropriately sized rock material, or rock gabions. Additionally, design specifications shall be produced by a qualified and certified engineer and these specifications shall be available to the BLM upon request prior to commencement of construction activities.

8. Range Management. Damage to range improvements (fences, gates, reservoirs, pipelines, etc.) shall be avoided during development of oil and gas resources. If range improvements are damaged during exploration and development, the operator shall repair or replace the damaged range improvements. If a new or improved access road bisects an existing livestock fence, a steel frame gate or a cattleguard with bypass gate shall be installed across the roadway to control grazing livestock.
9. Ips Beetle. To avoid mortality of pinyon pines due to infestations of the *Ips* beetle, any pinyon trees damaged during road, pad, or pipeline construction shall be chipped after being severed from the stump or grubbed from the ground, buried in the toe of fill slopes (if feasible), or cut and removed from the site within 24 hours to a location approved by the Colorado State Forest Service.
10. Reserve Pits. Reserve or cuttings pit shall be fenced on three sides prior to drilling activity and closed off on the fourth side after drilling is completed. Fencing shall be adequate to preclude entry by livestock, unless otherwise specified by BLM. In areas where a reserve or cuttings pit presents a hazard to big game or other wildlife, the BLM may provide additional fencing requirements, including higher fence and/or mesh. The fence shall be maintained in good condition to exclude wildlife and livestock. (Fencing: BLM Manual Handbook H-1741-1, p. 16) If any reserve, evaporation, or holding pit is constructed with a slope steeper than 3:1, or if the pit is lined, escape ramps shall be installed every 50 feet along the pit slope and at each corner to allow for escape of livestock and wildlife. An example: anchored sections of galvanized chain-link fence at least 24 inches wide which extend from the bottom of the pit to the top of the pit slope and across the top edge of the pit liner.

It shall be the responsibility of the operator to comply with the Migratory Bird Treaty Act (MBTA) with respect to “take” of migratory bird species. Under the MBTA, “take” means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The operator shall prevent use by migratory birds of any pit containing fluids associated with oil or gas operations, including but not limited to reserve pits, produced-water pits, hydraulic fracturing flowback pits, cuttings trenches (if covered by water or other fluid), and evaporation pits. Liquids in these pits may pose a risk to migratory birds (e.g., waterfowl, shorebirds, wading birds, songbirds, and raptors) as a result of ingestion, absorption through the skin, or interference with buoyancy and temperature regulation. Regardless of the method used, it shall be in place within 24 hours following the placement of fluids into a pit. Because of high toxicity to birds, oil slicks and oil sheens should immediately be skimmed off the surface of any pit that is not netted. The most effective way to

eliminate risk to migratory birds is prompt drainage, closure, and reclamation of pits, which is strongly encouraged. Any pit open for more than 30 days will be netted sufficiently to preclude entry by migratory birds. All mortality or injury to species protected by the MBTA shall be reported immediately to the BLM project lead and to the USFWS representative in the BLM Field Office at 970-876-9051 (Creed Clayton) and visit <http://www.fws.gov/mountain-prairie/contaminants/oilpits.htm>.

11. Reclamation. Prior to interim reclamation, the operator shall meet with BLM to inspect the disturbed area, review the existing reclamation plan, and agree upon any revisions to the plan. The objectives of interim reclamation are to return the disturbed area to productive use and meet the objectives of the land and the resource management plan. Interim reclamation will be considered successful when disturbed areas not needed for long-term production operations or vehicle travel have been recontoured and stabilized; revegetated with a self-sustaining, vigorous, diverse, native (or otherwise approved) plant community that minimizes visual impacts, provides forage and stabilizes soils. Seeded species will be considered firmly established when at least 50 percent of the new perennial plants are producing seed.
 - a. *Deadline for interim reclamation earthwork and seeding.*

Interim reclamation to reduce a well pad to the maximum size needed for production, including earthwork and seeding of the interim reclaimed areas, shall be completed within 6 months following completion of the last well planned on that pad. Deadline is subject to extension on a case-by-case basis upon approval of the BLM, based on season, timing limitations, or other constraints. If an extension is needed, a request shall be submitted writing to the BLM. If an extension is granted, temporary surface stabilization (hydro-mulch, erosion matting, etc) may be required.
 - b. *Seedbed preparation.*

Seedbed Preparation: For cut-and-fill slopes, initial seedbed preparation shall consist of backfilling and recontouring to achieve the configuration specified in the reclamation plan. For compacted areas, initial seedbed preparation shall include ripping to a minimum depth of 18 inches with a maximum furrow spacing of 2 feet. Where practicable, ripping shall be conducted in two passes at perpendicular directions. Following final contouring, the backfilled or ripped surfaces shall be covered evenly with topsoil. The BLM may require also require soil amendments if topsoil is inadequate. Final seedbed preparation shall consist of scarifying (raking or harrowing) the spread topsoil prior to seeding.
 - c. *Seed Mixes.*

All disturbed areas shall be seeded with a seed mixture approved by the BLM and be consistent with BLM standards in terms of species and seeding rate for the specific habitat type within the project area. The seed shall contain no noxious, prohibited, or restricted weed seeds and shall contain no more than 0.5 percent by weight of other weed seeds. Seed tags or other official documentation shall be submitted to BLM at least 14 days before the date of proposed seeding for

acceptance. Seed that does not meet the above criteria shall not be applied to public lands.

- d. *Seeding procedures.* Seeding shall be conducted no more than 24 hours following completion of final seedbed preparation.

Where practicable, seed shall be installed by drill-seeding to a depth of 0.25 to 0.5 inch. Where drill-seeding is impracticable, seed may be installed by broadcast-seeding at twice the drill-seeding rate, followed by raking or harrowing to provide 0.25 to 0.5 inch of soil cover or by hydroseeding and hydromulching.

Hydroseeding and hydromulching shall be conducted in two separate applications to ensure adequate contact of seeds with the soil.

If interim revegetation is unsuccessful, the operator shall implement subsequent reseedings until interim reclamation standards are met.

- e. ***Site Protection.*** **The pad shall be fenced to BLM standards to exclude livestock grazing for the first two growing seasons or until seeded species are firmly established, whichever comes later. The seeded species will be considered firmly established when at least 50 percent of the new plants are producing seed. The BLM will approve the type of fencing.**

- f. *Mulch.* Mulch shall be applied within 24 hours following completion of seeding. Mulch may consist of either hydromulch or of certified weed-free straw or certified weed-free native grass hay crimped into the soil.

NOTE: Mulch is not required in areas where erosion potential mandates use of a biodegradable erosion-control blanket (straw matting).

- g. *Erosion Control.* Cut-and-fill slopes shall be protected against erosion with the use of water bars, lateral furrows, or other measures approved by the BLM. Cut-and-fill slopes along drainages or in areas with high erosion potential shall also be protected from erosion using hydromulch designed specifically for erosion control or biodegradable blankets/matting, bales, or wattles of weed-free straw or weed-free native grass hay. A well-anchored fabric silt fence shall also be placed at the toe of cut-and-fill slopes along drainages or to protect other sensitive areas from deposition of soils eroded off the slopes. Additional BMPs shall be employed as necessary to reduce soil erosion and offsite transport of sediments.
- h. *Monitoring.* The operator shall conduct annual monitoring surveys of all sites categorized as “operator reclamation in progress” and shall submit an annual monitoring report of these sites to the BLM by December 31 of each year. The annual report shall document whether attainment of reclamation objectives appears likely. If one or more objectives appear unlikely to be achieved, the report shall identify appropriate corrective actions.

12. Weed Control. The operator shall regularly monitor and promptly control noxious

weeds or other undesirable plant species as set forth in the joint BLM/ Forest Service *Noxious and Invasive Weed Management Plan for Oil and Gas Operators*, dated March 2007. A Pesticide Use Proposal (PUP) must be approved by the BLM prior to the use of herbicides. Annual weed monitoring reports shall be submitted to the authorized officer by December 1.

13. Visual Resources. Production facilities shall be placed to avoid or minimize visibility from travel corridors, residential areas, and other sensitive observation points—unless directed otherwise by the BLM due to other resource concerns—and shall be placed to maximize reshaping of cut-and-fill slopes and interim reclamation of the pad. [May substitute “shall be placed as indicated on the plats attached to the APD, unless an alternative placement is approved by the BLM.”] To the extent practicable, existing vegetation shall be preserved when clearing and grading for pads, roads, and pipelines. The BLM may direct that cleared trees and rocks be salvaged and redistributed over reshaped cut-and-fill slopes or along linear features. Above-ground facilities shall be painted a natural color selected to minimize contrast with adjacent vegetation or rock outcrops. The color shall be specified by the BLM and attached as a COA to individual APDs.
14. Heritage Resources - Cultural and Paleontological. All persons in the area who are associated with this authorization shall be informed that any person who, without a permit, injures, destroys, excavates, appropriates or removes any vertebrate fossil, historic or prehistoric ruin, artifact, object of antiquity, Native American remains, Native American cultural item, or archaeological resources on public lands is subject to arrest and penalty of law (16 USC 433, 16 USC 470, 18 USC 641, 18 USC 1170, and 18 USC 1361). Any heritage resource discovered requires that work in the area must stop and the BLM Authorized Officer notified. Strict adherence to the confidentiality of information concerning the nature and location of archeological resources would be required of the proponent and all of their subcontractors (Archaeological Resource Protection Act, 16 U.S.C. 470hh).

Inadvertent Discovery:

The National Historic Preservation Act (NHPA) [16 USC 470s., 36 CFR §800.13], as amended, requires that if newly discovered historic or archaeological materials or other cultural resources are identified during the Proposed Action implementation, work in that area must stop and the BLM Authorized Officer (AO) must be notified immediately. Within five working days the AO will determine the actions that will likely have to be completed before the site can be used, assuming in place preservation is not necessary §800.13(b)(3).

The Native American Graves Protection and Repatriation Act (NAGPRA) [25 USC 3001 et seq., 43 CFR 10.4] requires that if inadvertent discovery of Native American Human Remains or Objects of Cultural Patrimony occurs, any activity must cease in the area of discovery, a reasonable effort made to protect the item(s) discovered, and immediate notice be made to the BLM Authorized Officer, as well as the appropriate

Native American group(s) (IV.C.2). Notice may be followed by a 30-day delay (NAGPRA §3(d)).

The Paleontological Resources Preservation Act (PRPA) [16 U.S.C. 470aaa] requires the proponent to immediately suspend activities in the vicinity, protect the discovery from damage and notify the BLM Authorized Officer of any paleontological resources discovered as a result of operations under this authorization. The Authorized Officer will evaluate, or will have evaluated, such discoveries as soon as possible, but not later than 10 working days after being notified. Appropriate measures to mitigate adverse effects to significant paleontological resources will be determined by the Authorized Officer after consulting with the operator. Within 10 days, the operator will be allowed to continue construction through the site, or will be given the choice of either (1) following the Authorized Officer's instructions for stabilizing the fossil resource in place and avoiding further disturbance to the fossil resource, or (2) following the Authorized Officer's instructions for mitigating impacts to the fossil resource prior to continuing construction through the project area.

If human remains are discovered on private or state land associated with this authorization, the BLM will notify the State of Colorado Archaeologist immediately, who will comply with Colorado Revised Statutes (Appendix) regarding the discovery of human remains (24-80-1302).

In the case of a new discovery, the operator may relocate activities to avoid the expense or mitigation and delays associated with this process, as long as the new area has been appropriately inventoried and has no resource concerns, and the exposed materials are recorded and stabilized. Otherwise, the operator shall be responsible for mitigation costs. The BLM authorized officer will provide technical and procedural guidelines for relocation and/or to conduct mitigation. Upon verification from the BLM authorized officer that the required mitigation has been completed, the operator will be allowed to resume construction.

15. Timing/Disturbance Limitations

Big Game Winter Range Timing Limitation. To minimize impacts to wintering big game, no construction, drilling or completion activities shall occur during a Timing Limitation (TL) period from January 1 to March 1 annually [or substitute dates from Lease Stipulation – okay to repeat as COA for emphasis].

Migratory Birds. To ensure compliance with the Migratory Bird Treaty Act, no new surface disturbance, especially vegetation removal, shall be allowed between May 15 and July 15, to prevent potential taking of migratory birds. An exception could be granted if nesting surveys conducted no more than one week prior to surface-disturbing activities indicate that no migratory birds are nesting within 30 meters of the area to be disturbed. A request for exception shall be submitted in writing and would require prior approval from the BLM before any surface disturbing activities

can begin.

See COA #6 for requirements related to reserve pits and MBTA.

Bald and Golden Eagles. It shall be the responsibility of the operator to comply with the Bald and Golden Eagle Protection Act (Eagle Act) with respect to “take” of either eagle species. Under the Eagle Act, “take” includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest and disturb. “Disturb” means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior. Avoidance of eagle nest sites, particularly during the nesting season, is the primary and preferred method to avoid a take. Any oil or gas construction, drilling, or completion activities planned within 0.5 mile of a bald or golden eagle nest, or other associated activities greater than 0.5 miles from a nest that may disturb eagles, should be coordinated with the BLM project lead and BLM wildlife biologist and the USFWS representative in the BLM Field Office (970-876-9051).

Raptor Nesting. [Pick the appropriate scenario. Italicized notes are for your benefit; do not include in COA]

Situation A – Raptor Survey Conducted for this Project or Previous NEPA, and Nest(s) Found:

16. Raptor Nesting. Raptor nest surveys in the project vicinity resulted in the location of one or more raptor nest structures within 0.25 mile of a well pad or 0.125 mile of an access road, pipeline, or other surface facility. To protect nesting raptors, a 60-day Timing Limitation (TL) shall be applied to construction, drilling, or completion activities within the buffer widths specified above, if the activities would be initiated during the nesting period of X to Y [Note: dates depend on the particular species – see suggested dates below]. An exception to this TL may be granted for any year in which a subsequent survey determines one of the following: (a) the nest is in a severely dilapidated condition or has been destroyed due to natural causes, (b) the nest is not occupied during the normal nesting period for that species, (c) the nest was occupied but subsequently failed due to natural causes, or (d) the nest was occupied, but the nestlings have fledged and dispersed from the nest.

Situation B – Raptor Survey for this Project or Previous NEPA, and No Nest(s) Found:

Raptor Nesting. Raptor nest surveys for [specify project and year] did not result in location of raptor nest structures within 0.25 mile of a well pad or 0.125 mile of an access road, pipeline, or other surface facility associated with this project. Therefore, a Raptor Nesting Timing Limitation COA is not attached to this [MDP, EA, SCX, etc.]. However, to ensure compliance with the Migratory Bird Treaty Act, the operator should schedule construction or drilling activities to begin outside the raptor

nesting season (February 1 to August 15) if practicable. If initiation of construction, drilling, or completion activities during these dates cannot be avoided, the operator is responsible for complying with the Migratory Bird Treaty Act, which prohibits the “take” of birds or active nests (those containing eggs or young), including nest failure caused by noise and human activity.

Situation C – Raptor Survey Not Conducted but Urgency Prevents a Survey before Project Approval:

Raptor Nesting. To protect nesting raptors, a survey shall be conducted prior to construction, drilling, or completion activities that are to begin during the raptor nesting season (February 1 to August 15). The survey shall include all potential nesting habitat within 0.25 mile of a well pad or 0.125 mile of an access road, pipeline, or other surface facility. Results of the survey shall be submitted to the BLM. If a raptor nest is located within the buffer widths specified above, a 60-day Timing Limitation (TL) shall be applied to postpone initiation of construction, drilling, and completion activities. *[Note: This is subject to site-specific adjustment by BLM based on factors such as visual screening and the type, timing, and duration of the proposed action].* The dates of this TL will be based on the particular species of raptor.

Birds of Conservation Concern. Pursuant to BLM Instruction Memorandum 2008-050, all surface-disturbing activities are prohibited from May 1 to July 1 to reduce impacts to Birds of Conservation Concern (BCC). An exception to this COA will be granted if nesting surveys conducted no more than one week prior to surface-disturbing activities indicate that no BCC species are nesting within 30 meters (100 feet) of the area to be disturbed. Nesting shall be deemed to be occurring if a territorial (singing) male is present within the distance specified above. Nesting surveys shall include an audial survey for diagnostic vocalizations in conjunction with a visual survey for adults and nests. Surveys shall be conducted by a qualified breeding bird surveyor between sunrise and 10:00 AM under favorable conditions for detecting and identifying a BCC species. This provision does not apply to ongoing construction, drilling, or completion activities that are initiated prior to May 1 and continue into the 60-day period at the same location.

Note: Possible Dates for 60-Day TL COA :

Great Horned Owl, Golden Eagle: February-March, February 15-April 15, or March-April

Red-tailed Hawk: March-April, March 15-May 15, or April-May

Cooper’s Hawk, Sharp-shinned Hawk, Swainson’s Hawk, Prairie Falcon: April-May, April 15-June 15, or May-June

Site-Specific COAs Applicable to [Specify Pad, Wells, etc.]

Water Depletion Reporting Requirements. (for horizontal wells only)

To ensure compliance with the terms and conditions of a Programmatic Biological Opinion (PBO) for water depletions associated with fluid minerals development on BLM lands, the operator shall report the total amount of new water used to drill and complete each **horizontal** well. “New” water is defined here as water that has not previously been used for the drilling of a well or produced from oil and gas operations. If recovered water is reused to drill multiple wells, the operator should report only the new fresh water used at a given well. This data must be submitted within 30 days of the well’s completion. This COA does not apply to standard directional or vertical wells.

Requirement for 5-year spud date timing. Approval of the APD(s) through a Section 390 Categorical Exclusion is contingent on the well having been spudded by a certain date (XX/XX/20XX). If the well is not spudded by that date, this APD is considered null and void *ab initio*, and a new APD must be resubmitted along with a payment of \$6,500. At that time, BLM will initiate an Environmental Assessment pursuant to NEPA."

Generator Noise. The generator(s) and pump(s) serving the injection well shall be installed and operated at the site in a manner that, at a minimum, meets the Colorado Oil and Gas Conservation Commission’s Noise Abatement regulation (No. 802) for Residential/Agricultural/Rural Zone. In summary, this regulation requires that the noise level not exceed 50 db(A) between 7:00 p.m. and 7:00 a.m. at a distance of 350 feet from the noise source.